

The operational challenge of getting affordable energy to Alaskan consumers

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## Alaska Energy Authority: Mission

#### "To Reduce the Cost of Energy in Alaska"

- AEA is an independent and public corporation of the State of Alaska
- Created by the Alaska Legislature in 1976
- 44.83.070: "The purpose of the Authority is to promote, develop, and advance the general prosperity and economic welfare of the people of the state by providing a means of financing and operating power projects and facilities that recover and use waste energy and by carrying out the powers and duties assigned to it under AS 42.45."



# **Challenges for Affordable Energy**

- 1. Low loads
- 2. Geographic challenges: distance and climate
- 3. High prices for heat & electricity



## **Electricity Generation by Region**

#### **Annual Electric Generation**

	MWhs per	Percent of
AEA Energy Region	Year	Total
Aleutians	65,340	1%
Bering Straits	55,362	1%
Bristol Bay	55,145	1%
Copper River/Chugach	116,700	2%
Kodiak	150,503	2%
Lower Yukon-Kuskokwim	96,625	1%
North Slope	82,544	1%
Northwest Arctic	35,549	1%
Railbelt	5,075,507	77%
Southeast	785,190	12%
Yukon-Koyukuk/Upper Tanan	31,175	0%
Total	6,549,640	100%
2011 Alaska Engrave Chatistics		



ZULL Alaska Ellergy Statistics

#### ElDoradoCountyWeather.com



- Cold temperatures create operational challenges for utilities
  - Increases isolation & risks
  - Delivery of fuel & supplies
  - Increased O&M (?)
- Renewable resources
  - Hydro limitations
  - Impacts wind
- Cold temperatures increases energy use for heating



### Breakdown of Average Total PCE Community Energy Costs including PCE



Residential & non-residential electricity from PCE. Residential heat from AHFC data. Non-residential heat assumes an 80%/20% ratio for heat to electricity consumed.

ENERGY AUTHORITY

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### **PCE: Effect on Rates**



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#### AN ACT

Relating to the limitation on the value of property taxable by a municipality; relating to the Alaska Gasline Development Corporation; relating to an in-state natural gas pipeline, an Alaska liquefied natural gas project, and associated funds; requiring state agencies and other entities to expedite reviews and actions related to natural gas pipelines and projects; making certain contracts by the Department of Natural Resources and the Department of Law not subject to the State Procurement Code; relating to the authorities and duties of the commissioner of natural resources relating to a North Slope natural gas project, oil and gas and gas only leases, and royalty gas and other gas received by the state including gas received as payment for the production tax on gas; relating to a report and recommendations by the commissioner of natural resources regarding the delivery and availability of North Slope natural gas in the state, including the identification of risks and recommendations for mitigation; relating to the tax on oil and gas production, on oil production, and on gas production: relating to the duties of the commissioner of revenue relating to a North Slope natural gas project and gas received as payment for tax; relating to confidential information and public record status of information provided to or in the custody of the Department of Natural Resources and the Department of Revenue; relating to apportionment factors of the Alaska Net Income Tax Act; amending the definition of gross value at the "point of production" for gas for purposes of the oil and gas production tax; clarifying that the exploration incentive credit, the oil or gas producer education credit, and the film production tax credit may not be taken against the gas production tax paid in gas; relating to the oil or gas producer education credit; requiring the commissioner of revenue to provide a report to the legislature on financing options for state ownership and participation in a North Slope natural gas project; requesting the governor to establish an advisory planning group to advise the governor on municipal involvement in a North Slope natural gas project; relating to the development of a plan by the Alaska Energy Authority for developing infrastructure to deliver affordable energy to areas of the state that will not have direct access to a North Slope natural gas pipeline and a recommendation of a funding source for energy infrastructure development; establishing the Alaska affordable energy fund; requiring the Department of

Enrolled SB 138

### Senate Bill 138

#### Alaska Affordable Energy Strategy

Plan and recommendations to the Legislature on infrastructure needed to deliver affordable energy to areas in the state that do not have direct access to a North Slope natural gas pipeline.

Due: January 1, 2017



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#### SB 138:

#### Alaska Affordable Energy Fund

Special account in the general fund to provide a source from which the legislature may appropriate money to develop infrastructure to deliver energy to areas of the state that are not expected to have or do not have direct access to a North Slope natural gas pipeline

 20 percent of the revenue from the state's royalty gas from an Alaska LNG project (after the payment to the permanent fund)





### Electricity

4 Quadrants based on Access to Energy Resources:

- 1. Natural Gas/Renewables
- 2. No Natural Gas/Renewables
- 3. No Natural Gas/No Renewables
- 4. Natural Gas/No Renewables





#### Heat

4 Quadrants based on Access to Energy Resources:

- 1. Natural Gas/Renewables
- 2. No Natural Gas/Renewables
- 3. No Natural Gas/No Renewables
- 4. Natural Gas/No Renewables



# **Strategies for More Affordable Energy**

Evaluate communities individually on ability to costeffectively access to renewable energy or natural gas.

Provide funding mechanisms, assistance, and other changes to promote costeffective measures in communities.



#### Residential Energy Costs per AHFC Star Rating and Percent of Total Energy Cost Reduction if raised to 5-Star standard







ENERG

# AKEnergyAuthority.org

